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THE ART

OF

TRANSPARENT PAINTING ON GLASS

BY EDWARD GROOM.

With Twelve Illustrations by the Author.

SEVENTH EDITION.

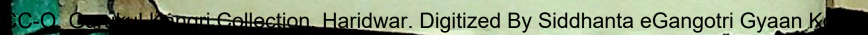


Ars probat artificem.

LONDON:
WINSOR AND NEWTON, 38, RATHBONE PLACE.
1877.

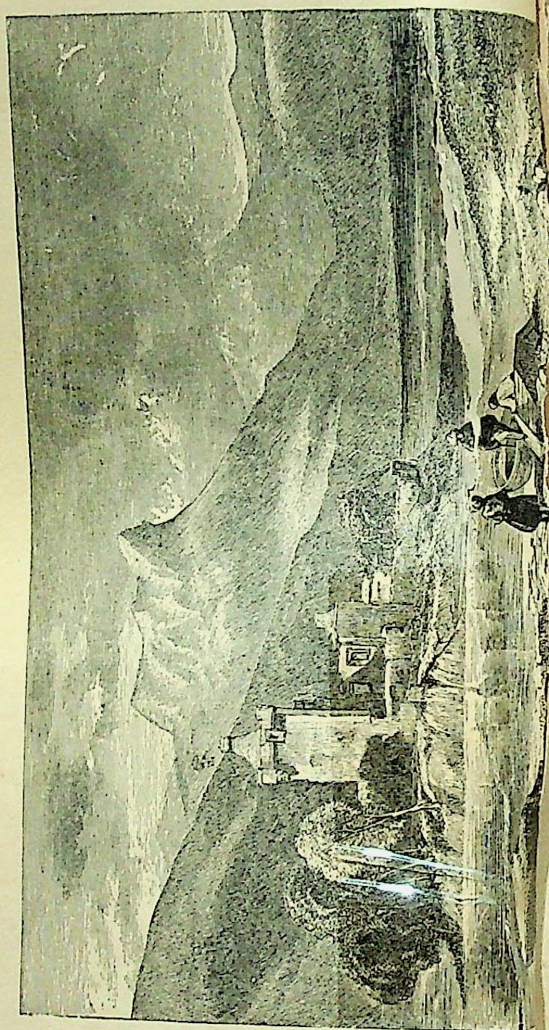
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Master Chiranji Lal Verma,
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SS

UNT



THE ART

OF

TRANSPARENT PAINTING ON GLASS

FOR THE MAGIC LANTERN:

COMPRISING THE METHOD OF PAINTING, AND AN ACCOUNT OF THE IMPLEMENTS AND MATERIALS EMPLOYED IN PRODUCING SUBJECTS FOR DISSOLVING VIEWS, &c.; ALSO CHROMATROPES, AND MECHANICAL SLIDES AND CONTRIVANCES FOR OBTAINING EFFECTS OF MOTION AND VARYING COLOURS.

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LONDON:
WINSOR AND NEWTON, 38, RATHBONE PLACE,
Manufacturing Artists' Colourmen by Special Appointment to Her Majesty,
and Their Royal Highnesses the Prince and Princess of Wales.



LONDON:
Printed by A. Schulze, 13, Poland Street.

PREFACE.

In dealing with the subject of this Manual, it is felt that Painting on Glass for the Magic Lantern is rapidly becoming more and more available as a valuable agency for the illustration of popular Science. This style of glass painting might have easily been treated at much greater length; but, when regarded as a subject for one of this series of Handbooks, it has been considered preferable simply to lay down the principles of this Art, and then to give such plain practical directions as will enable intelligent and ingenious students to produce a variety of beautiful imitations of natural phenomena. Painting on Glass for the Magic Lantern was long considered to be restricted to the production of such slides, as would excite the mirth, or perchance arouse in some degree the fears, of youthful spectators. It has lately, however, been largely used for the illustration of Topography,

Natural History, and Science; and to its utility in this direction no limits can be assigned. The magic lantern has been considered simply as an amusing toy; and, it may still in some respects be regarded as a toy—but a toy which, while certain to please, is well qualified to convey instruction. It is not, we may repeat, within the intention of this little Book to proceed beyond elementary principles and plain rules and descriptions; but, at the same time, we hope to show that the practice of this peculiar art may be cultivated with the most gratifying results, and that it may be applied to a variety of useful, instructive and eminently attractive purposes.

H. M.

THE ART

OF

TRANSPARENT PAINTING ON GLASS.

INTRODUCTION.

In this little Treatise it is proposed to afford, as simply as possible, instruction in Transparent Painting on Glass, principally in reference to the production of pictures suitable for dissolving views. These beautiful illusions are still for the most part confined to public institutions, though so easily adaptable as valuable auxiliaries of general education, and as an interesting means of domestic amusement.

Dissolving views need not necessarily be of such magnitude as those presented in public exhibitions; nor is it indispensable that the apparatus be very costly. The re-

presented dimensions of the pictures depend upon the capacities of the apparatus, and their perfection will be in proportion to the skill of the artist.

It is here submitted, that painting on glass should contribute amusement of a more useful kind than that afforded by the mere grotesques of the magic lantern; and that it should be employed to convey instruction in branches of knowledge, which may be susceptible of extensive and easy communication by means of such an auxiliary.

As a toy, the magic lantern has long been extensively popular; and hence it is matter of surprise, that the views and figures which are prepared for it should have so long remained devoid of common merit.

Every department of art in this country has, of late years, made great advances; but the inferior quality of painting on glass for the magic lantern is attributable to many circumstances, which it is not our purpose to consider. Had the magic lantern been employed as a medium of instruction, the pictures exhibited must have been of a character incomparably superior to what they are. Had there been a demand for productions of any degree of excellence, it is certain that they would have been forthcoming. For the execution of these works, daylight is not necessary; indeed, as they are intended for exhibition by artificial light, it is found that the effect of those executed by gas or lamplight is preferable to that of such as are painted by daylight.

The value of truthful pictorial representations, illustrative of written or oral descriptions, is universally acknowledged, as far as it has been applied; but its application is by no means so general as it might be. The employment of painting on glass, we would suggest, might be adopted as a means of simplifying lectures on many branches of knowledge.

We see continually this kind of art used in imaginative compositions. There is no reason why this should be discontinued. In addition, however, to its adaptation to purposes of mere amusement, we would suggest its employment for the elucidation of science and the illustration of truth.

Although painting on glass has not been made available according to its capabilities, no medium of illustration could be more successfully employed in augmenting the interest of science. By its means, more fully than by any other, astronomical phenomena could be explained. The revolution of the planets round the sun, that of the moon round the earth, as also the rotundity of the earth, could be satisfactorily shown. The last could be beautifully described by the appearance of a ship first cutting the horizon, with her dimly visible masts and spars, then rising on the crest of the horizon, and ultimately descending into the nearer field of view. The phases of the moon, and the phenomena of the tides, could be amply depicted; and discourses on Natural History might be rendered

doubly interesting to youthful students, by life-sized portraits of animals and pictorial descriptions of their habits; and not only to youth, but to students of mature years, would well-executed pictures convey in each representation a greater amount of information than could be communicated by the most elaborate unillustrated essays.

Discourses, orally delivered, and descriptions assisted by faithful pictures impress the mind more sensibly than written treatises. Next to actual examination and the study of the reality, there is no other method so available for the communication of valuable knowledge. The entire cycle of known astronomical phenomena can be shown by the aid of this art; and in history, topography, physical geography and geology, finished and accurate pictures on glass would more nearly approach the truth than mere outlines and diagrams.

In order to exemplify the art we are considering, in its application to minute and variously descriptive detail, let us suppose that it is intended to describe the Chinese Empire. Perhaps the first consideration that would occur to the essayist, would point to the geographical position of the country and its local relation to neighbouring countries. The chief cities and remarkable scenery of the country might be illustrated by pictures and oral descriptions. These would be accompanied by representations of the inhabitants, their costumes, manners, commerce and manufactures; and all this might be carried

out with marvellous fidelity and exactitude by the assistance of photography ; which would supply such comprehensive and searching representations, as the most accomplished sketcher could never hope to achieve.

We instance China only, as an example of what might be done ; but we also possess endless resources nearer home. In these times, each succeeding year opens subjects of new and varied interest, which may be fully and accurately illustrated by means of paintings on glass. To every subject available for illustration by designs and pictures this art can be applied with advantage. Public taste has declared in favour of illustrated literature. If, therefore, to letter-press descriptions of localities and personal incidents, cuts and engravings are found useful, the like accompaniments to an oral discourse will give proportionately greater interest.

A decided and increasing popularity has been accorded to groups of panoramic pictures, accompanied by descriptive lectures ; but the expense of good panoramic compositions, as they are generally painted in oil, amounts almost to a prohibition of their more general use. On the contrary, paintings on glass, which are intended for adaptation to a lantern, are necessarily small ; but, when in use, they are thrown in magnified expansion over an extended surface.

In the use of painting on glass, as here contemplated, photography will be found an invaluable aid. Photographic pictures themselves may be thrown on to the

disc; and the advantages and facilities which photography presents in obtaining accurate views of sites, buildings, and objects, cannot be too highly estimated.

It will be understood that photographic positive pictures on glass are always available for the requirements of the Magic Lantern. Consequently glass stereoscopic slides are ready for use, it being observed that one only of the two views is required to be thrown upon the disc. Many exquisitely beautiful pictures of this class may readily be obtained, amongst which a place of honour must be assigned to the beautiful views in Java, published by Negretti and Zambra of Regent Street, and of the Crystal Palace. Another series of peculiar interest consists of views in Switzerland.

PART I.

IMPLEMENTS AND MATERIALS.

The working requisites and materials are glasses, frames, a fine pointed pencil and holder, a palette knife, brushes, dabbers, a rest-stick, a round pointed knife, an etching needle, a few piece of cloth, and water-colours.

Some observations on the qualities of the materials may assist the student in the selection of those best suited for his purpose, and thus time and expense may be saved.

GLASS has a rough and a smooth side. The means of distinguishing these is to draw the finger-nail over the surface, when the rough side may be readily determined by the gritty particles which occur sensibly to the nail. As these particles would prevent the colour from lying evenly, the smooth side is that on which the drawing must be made and the painting executed. For common subjects that material called flatted crown glass will be found suitable, but if nicety of execution is necessary

plate-glass must be used. In all cases, the glass must be as free from specks as possible, and of the same size as the object-glass of the magic lantern, through which the pictures are to be exhibited.

FRAMES are generally made of mahogany, but deal will answer equally well. Any carpenter can make the square and oblong frames; but when they are required to be circular, it will be necessary to have the circles cut by a turner.

THE FINE-POINTED PEN is for drawing outlines, and will be found more available and expeditious than a brush. Perhaps the best tool for outline is one of the the cheap gold pens, which are now made in abundance. The colour in this will not dry so quickly, nor will it corrode like the steel pen.

THE PALETTE may be either of porcelain free from specks or grit, or of enamelled wood. The latter is lighter, but it will not wear so well as the former. It should be perforated, so as to balance well on the thumb of the left hand.

The tints are mixed and arranged upon the palette, and care must be taken to keep it clean and free from scratches.

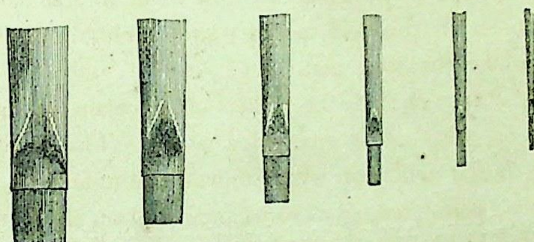
THE PALETTE KNIFE is used to mix tints, and both to place the colours upon the palette and to remove them from it. It should be thin, flexible, and tapering towards the point.

THE BRUSHES should be of sable, of a pale yellowish

colour; soft to the touch, yet firm and elastic, so as at once to resume their form after being pressed laterally against the hand. In form, they should be flat and wedge like, and without any straggling or diverging hairs. None but those of the best manufacture should be used. As the quality of the execution depends much upon the excellence of these brushes, any care exercised in securing those best suited to the purpose will be amply compensated in the work.

The accompanying cuts indicate the most useful sizes.

FIG. I.

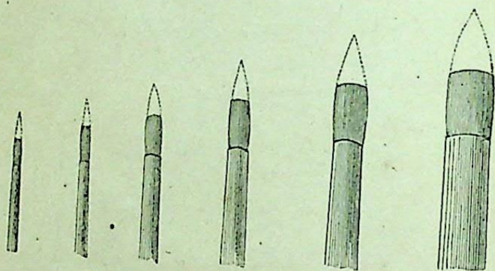


DABBERS (so called from their use) must be made by the student; and as all finish depends upon them, great nicety must be observed in preparing them.

They are formed of round brushes of very fine camel's hairs of the sizes shown in the following illustration. The points must be cut off as in the dotted lines of the cut, a the blunted ends must be held to the flame of a can

as to form and round them. This is an operation of some delicacy, but a little practice will soon enable the student to perform it successfully. They must be turned and moved to and fro, so as to singe them into the desired form; after which, the burnt ends must be cleared and finished off, by rubbing upon the find sand-paper known as number O. The cut shows the form of these brushes when burnt.

FIG. 2.

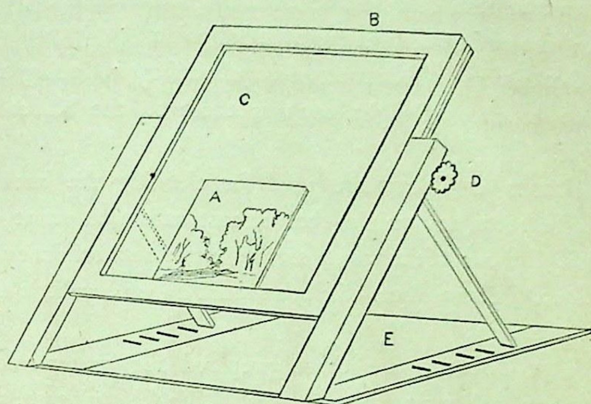


The Easel best adapted for painting on glass will be obtained by taking a rack easel drawing-board, and inserting a framed piece of glass instead of the shifting board. The accompanying diagram will best explain its use and management, Fig. 3.

A is the piece of glass to be painted on; B the lifting frame of the easel, into which is inserted the plate of glass C, occupying the place of the shifting board which the frame commonly contains. The frame slides in

grooves, and is fixed at any height convenient to the painter, by means of the screw D. The horizontal rack-

FIG. 3.



board E, is covered with white paper, or card-board, in order that the effect of the colours applied may be clearly seen.

THE REST STICK is used as in oil painting, to rest and steady the hand when great neatness and precision of touch are necessary. The lower end is held in the left hand; and the upper extremity rests, in the course of working, upon any convenient part of the easel. It should be light, firm, and in all respects such as can be held without inconvenience.

A ROUND POINTED KNIFE is useful for removing colour, when the effect of white is to be given, and also for improving lines by paring their edges. For this purpose, an ordinary single bladed pocket-knife will be found the best. It should be kept in good condition; that is, sharp and smooth at the rounded point.

AN ETCHING NEEDLE is required for producing minute touches of light, such as those on the blades of grass.

PIECES OF CLOTH are used for clearing the brushes and dabbers, to which the utmost attention must be paid, if the student would secure purity and brilliancy of colour. These pieces of cloth should have very little nap on them.

THE COLOURS are those prepared for water-colour painting, and procurable in tubes. The following are the most valuable for painting on glass.

YELLOW.

Aureolin.
Gamboge.
Italian Pink.
Gallstone.
Indian Yellow.

RED.

Madder Lake.
Crimson Lake.

BLUE.

Prussian Blue.
Indigo.

ORANGE.

Burnt Sienna.

BROWN.

Madder Brown.
Vandyke Brown.

BLACK.

Lamp Black.

The number of colours available for painting on glass is necessarily limited. Only those which are transparent—that is, through which light is transmitted—can be used.

PART II.

METHOD OF PAINTING ON GLASS.

Instructions for working may be divided according to the diversity of the operations: viz., Outlining, Securing, First Painting, Second Painting, Third Painting, and Finishing.

THE OUTLINE.

The chief desideratum in an outline is, that it shall remain undisturbed through the subsequent paintings. If the subject be an engraving, and the glass to which it is to be transferred will sufficiently cover it, the shortest process is to trace it. To accomplish this, place the engraving upon a flat surface, with its rough side downward, upon the part to be traced. When the position of the glass is determined, in order to secure it from moving, small weights should be placed resting on the edges. Before

being worked upon, the glass must be well rubbed with a silk handkerchief; and the glass should be sufficiently large to leave a margin of about one-eighth of an inch, to allow the pasting of a narrow paper rim, to support the glass which is placed over the picture when finished.

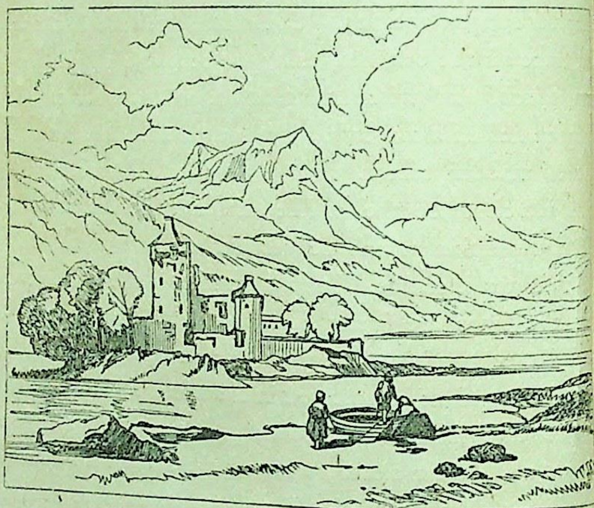
In a small saucer prepare a tint of rose madder and Prussian blue, using a little ox gall in the water. With this tint charge a middling sized brush, and from this reservoir supply the pen. Commence with the distance, and trace all the outlines, using the pen with a light, but firm touch, and without hesitation, as any error can be easily remedied afterwards. Prepare, in another saucer, a tint of madder brown, with a very little Prussian blue, with which trace the middle distance, or those parts of the composition which lie between the foreground and the remoter distance. It will be seen in the engraving that the lines are firmer, and the objects have more solidity in proportion as they are nearer the foreground. This feeling must be observed in the tracing.

The tint for the foreground will consist of madder brown and burnt sienna, with which, and with a touch yet firmer than in tracing the distance, the foreground must be drawn. It would be well to outline the objects in the foreground with their local colours; but this had better not be attempted until the student has made some progress, and attained to some executive power.

When the tracing or drawing is completed, the glass

must be removed to the easel, which will be so placed with regard to the window, that a full light may fall upon the white card-board. If the painting is executed by lamp-light, a green paper shade will be found useful for throwing the light upon the proper place, and for protecting the eyes from the glare.

FIG. 4.



The drawing may be examined by reversing it; errors if there be any, will thus become at once apparent. Corrections must be carefully effected by the aid of the knife, with which the lines are improved, or pared down, wherever they are ragged or thicker than they should be.

When the drawing has been thus examined, and the necessary corrections effected, the operation of outlining is concluded.

We propose to explain the process of painting the subject, as a dissolving view; and the instructions from which the picture may be worked will be equally available for any other subject.

By making a distinction between the tints and the lines drawn for the respective distances, the student will make a great step towards securing aërial effect—one of the greatest charms a picture can possess. The gradations in the appropriately tinted outline materially assist in the realization of this effect.

If the subject be too large or too small for the operation of tracing, the outline must be copied on paper of the size required. This may be effected with accuracy, by dividing subject and copy into an equal number of squares, whereby the place of every object in the composition is readily given. The drawing may then be traced on the glass as an engraving.

TO SECURE THE OUTLINE.

The outline is preserved by being covered with another thin piece of glass, of which the rougher side is turned

inwards. The edges of the two pieces are then firmly attached by a slip of strong gummed paper.

The picture may be painted upon either of these two pieces of glass; but it will be found more convenient to work upon the blank glass, for the sake of preserving the outline, and the facility of correction. This, indeed becomes a necessity in subjects where the slightest inaccuracy in drawing would tell. In laying the colour, it will be necessary to observe that the tint comes up to and covers the outline, since the eye might be misled by the interposition of a thickness of glass. The most minute space left uncoloured will show very distinctly when the picture is magnified by the lens of the lantern. Blanks occur only where it is intended to represent white.

THE PAINTING.

For the purpose of elucidating the method of painting in the clearest and simplest manner, we will suppose that we are conducting the reader through the detail of the various parts of the process necessary for painting the subject shewn in the small design given in the frontispiece. This subject is only proposed for the purpose of allowing of a clearer description, by means of reference to the different portions of the work.

We trust the reader, remembering the disadvantages

of describing a process of colouring without having a coloured illustration for reference, will pardon us if it appears to him that we dwell with apparently unnecessary minuteness upon the different portions of our description. He will observe that it is not so much intended to refer to a particular design, as to explain generally the method of executing transparent painting.

Place the outline upon the easel, adjust it to the most convenient height for working, and place the engraving where it can be consulted readily, and without inconvenience. The glass, preparatory to being painted on, must be scrupulously clean, having received a final polish from an old silk handkerchief.

As in painting generally, so in painting on glass, the sky and distance must first be worked out. The palette for these will be set with gall-stone, rose madder, and Prussian blue. The management of colour on the palette is a matter of discretion and habit with the painter; but, generally, the light and warm colours are placed near where the thumb passes through the palette, and hence the darker and cold colours are continued round the rim. Thus the gall-stone would be placed nearest the thumb, then the rose madder, and lastly, the blue.

In this landscape subject, the sky and distance will be generally gray, and the lights in the sky of a pearly white.

Take the largest brush, and with a tint made of rose

madder, and a very little Prussian blue, begin at the top of the picture, and lay the tint from left to right over the entire space to be occupied by the sky, making the tint lighter as it approaches the horizon. The first tint is for the pearly lights, and it must, therefore, be very soft even in the deepest part, while at the horizon it should be almost white. The darker clouds are painted with a tint made of Prussian blue, rose madder, and a little gall-stone, carefully observing form and character, and avoiding any degree of hardness at the edges. When marking out the forms with this tint, the half lights should be left, again worked on, and subsequently retouched with a tint of the same colours, but somewhat lighter, and having more gall-stone in it.

The edges and extremities of the clouds and oppositions in the sky, will appear hard; therefore, to blend and soften the work, the dabber will be necessary. To prepare the sky for blending and softening, it must be breathed upon; after which it may be carefully and gently worked over, and softened with the largest dabber. It will be found that by this operation extremely minute particles of colour will be removed, leaving on the places worked upon the appearance of a very fine stipple.

The breathing must be slight, for if the colour be too much moistened it will be removed by the dabber and will be carried into the next tint. It is bad enough when the tint is vitiated, but worse when spots occur by light

being carried into dark, or *vice versâ*. This operation must be proceeded with gradually—that is, as well as it can be effected on parts which are uniform in tone; and after each successive part has been worked; the dabber must be cleaned and dried, otherwise it will remove the colour. Thus the entire sky must be blended and softened, but not overwrought lest the forms of the clouds should be destroyed. The process must be carried out gradually, or mischief might occur from attempting too much at once.

The danger to be apprehended in working the dabber in painting on glass, is the same as that which is liable to occur from excessive use of the softener in oil-painting. The forms are likely to become subdued, and the entire sky flattened. It is, therefore, necessary to preserve the roundness and substance of the forms, each of which must have its own particular lights and shades.

In the subject we are now considering, the distance occupies but a small portion of the picture, since it consists only of the two mountains on the extreme right. The more remote is nearly of the same tint as the sky which hangs over it. In consequence of its being so distant there is an absence of all detail, and it is represented by a tint almost flat. The summit of the other mountain is partially obscured by the heavy cloud over it; but, approaching the middle distance, it increases in intensity, until it corresponds in tone with the dark part

of the cloud above it. In painting this the light must be left, and worked afterwards to its proper tint.

Begin with the top of the mountain, using rose madder, and a small portion of Prussian blue, adding more blue as approaching the middle distance, the lights of which will be painted with rose madder, and gall-stone, broken to a warm gray with blue; then blend the whole with a small dabber, every care being taken to preserve the forms. The size of the dabber must be in proportion to that of the passage to be worked. The middle distance is the most difficult part of the picture. It is composed of the mountain in the centre, the hill to the left, and the flat ground to the right. The first is a mass of light and half light; the second, of half shade and shade; and the third, of half shade, and shade in a deeper degree.

Place upon the palette, and in the following order,—gall-stone, madder brown, Vandyke brown, rose madder, crimson lake, Prussian blue, and indigo; and with the largest brush commence at the top of the mountain in the centre, and wash in the forms according to the markings with gall-stone, rose madder, and Prussian blue, working with this tint to a little below the top of the ruined castle; after which, add crimson lake by degrees and in very small quantities: and with this all the dark parts may be laid in, but only in very warm grays, even where most positive in colour.

The lights upon the top of the mountain must be

worked with gall-stone and a little rose madder; then add a small portion of blue, so as to make a grayish green, with which colour the lights near the base of the mountain and the rise on the extreme right. The dark parts of the hill, on the left of the castle, are to be made out with a tint of madder brown and Prussian blue. To this tint add rose madder, for the dark markings of the hill on the right of the castle, and leave them softer and softer, as they approach the base of the centre of the mountain, so that the tints may blend and be lost in each other.

The lighter parts of the hill will be coloured with gall-stone and brown madder; with the addition of a little rose madder, on approaching the most distant part. With Vandyke brown and indigo make out the darkest markings of the flat ground, and add a small portion of crimson lake, when proceeding to the extreme right. The line of foliage, which breaks the centre mountain from the flat ground, must be laid in with gall-stone and madder, leaving a few points of light tinted with gall-stone only to represent the light glancing upon the trees.

The half shades of the flat ground will be painted with rose madder and madder brown, and the dabber must be freely used to soften every part. Those minor lights that it would be troublesome to leave may be taken out with the point of a penknife, and afterwards retouched with the necessary tint. Instead of elaborately working up to the outlines of the foreground objects, such as trees,

castle, &c., it will be found more expeditious to cover the lines, and afterwards remove the superfluous colour.

THE FOREGROUND.

The painting of the foreground of our illustration is divided into two parts—the castle, the surrounding trees, the water, and reflections, forming the first; and the figures, boat, detailed mass of rock, sandy ground, loose stone, &c., the second.

In this part of the picture the palette must be set with all the colours except black, which is only required when black spots or lines are to be expressed.

Begin with the most prominent object at the back of the foreground—that is, the castle—drawing in the numerous shadows with brown madder and rose madder. The wall on the left and the base of the tower are shadowed by the clump of trees. The right of the tower is in shade, because the light comes from the left; and the body of the building is almost entirely shaded by the tower.

Having drawn in the shaded portions, as shown in Fig. 4, proceed to colour the lights on the castle with burnt sienna and rose madder, adding a little Prussian blue, in order to imitate that clear gray always presented by worn stone. The markings of the ground on which

the castle stands may be made with a tint of rose madder and brown madder. The ground itself may be coloured on the left, with brown madder and Prussian blue; on the right, work with the same tint, qualified with a little crimson lake, and in the centre with burnt sienna, rose madder and gall-stone, for the lights; and rose madder, madder brown and Prussian blue, for the half lights.

The house in the distance may be tinted with rose madder, gall-stone, and brown madder; for the lights of the trees near it, gall-stone and madder brown will be the tint; and for the shades, intense blue with Vandyke brown. The distant trees on the left of the castle may be made out with madder brown and intense blue; and the same tint, with the addition of a little gamboge, will serve wherewith to work the lights. The nearer trees will be laid in with gall-stone and Prussian blue, and the lights tinted with gall-stone and madder brown. The shaded portions of the light tree near the tower will be laid in with madder brown and gall-stone, but for the lights gall-stone alone will be used. The stems of the trees must be of a warm gray, which will be represented with a tint made of either gall-stone, rose madder and Prussian blue, or madder brown and indigo. In dealing with the lights in foliage it will be more satisfactory, and certainly easier, to mass in the foliage with the brush, and then take out the lights with the point of a pen-knife.

Reflections in water are represented with the same tints as the objects by which they are cast, and they should, therefore, be painted with the same colours as the objects themselves, and at the same time. The forms of objects in reflection may be given very indefinitely, save when the water is very still, in which case the forms of the reflected objects will more nearly approach the degree of perfection with which they are represented in the substance. Those parts of the water which do not cast reflection will be painted with tints corresponding in colour, but more gray in tone than those surrounding the reflected objects; and having effected this, the work will be brought down to the line of ground immediately bordering on the water, before touching whigh, blend and soften all that has not yet been touched with the dabber.

The foreground of the picture is generally flat, but slightly undulating to the right, where broken lines are obtained by means of grass. In this part many, indeed most, of the tints used in the other parts are repeated. The grays of the summit and of the centre of the mountain are repeated on, and around the mass of rock to the left, in which also occur tints of some of the dark parts of the hill.

The lights in the broken ground surrounding the castle are introduced in a much broader mass round the boat and figures; and the yellows and greens of the foliage are repeated largely in the grass to the extreme right, and in

a minor degree by a few broken tones round the mass of rock.

The figures, boat and dark markings of the rock, together with the loose stones scattered about, are left until the last, because with them rests, in a great degree, the force and toning of the entire picture.

As the composition abounds with tints allied to purple, if the upper part of the dress of the central figure be painted of a decided and positive blue, this will have the effect of reducing the lower and broken purples to gray; and by colouring the jacket of the female figure a bright orange, a contrast will be obtained which will operate powerfully in promoting the effect of the picture. But in order that the contrast between those strongly coloured draperies may not be too violent, and seem artificial, they may be modified and harmonized by the jacket of the third figure being of a neutral orange; and if the skirt of the same dress be coloured crimson, it will serve to harmonize and contrast the green tints. Dark touches on the shaded side of the figures and in the markings of the rock will give then force and relief, and, at the same time, throw the other parts of the picture back. The mass of shade in the rock is repeated in a less degree in that of the boat, in order to prevent its having the appearance of being isolated, or of having been placed there only for the sake of contrast. The loose stones are valuable for the same purpose; but in

order to secure variety, they must be of a colour much more gray than that of the surrounding objects.

The foreground of a picture is indebted for some of its best effects to decision of execution, purity of colour and tone, force of light and shade, and careful detail.

Decision of execution is a result of careful and observant practice; and decided opposition is obtained by the judicious contrast of tones and quantities. Purity and force of colour are obtained by the disposition of the more positive tints and colours in the foreground; a means whereby, also, all other tones are broken and subdued.

Light will of necessity be stronger in the foreground than in any other part of the composition, because the objects upon which it falls are in the nearest sites. The same rule applies to shade. Wherever, indeed, the highest lights occur, they are universally supported by the deepest shades.

Careful detail, in its strict sense, is a quality appertaining only to the immediate foreground, where the objects are supposed to lie so near the eye that their structure and surfaces are plainly visible. By detail is understood, not only a realization of the forms of the nearest objects by truthful drawing and observation of their light and shade, but also a description of their components, surfaces and materials. Force, substance, reality and detail are primary qualities of foregrounds, inasmuch as they both describe objects in immediate

proximity, and serve to cause the retirement of the middle and remoter distances.

FINISHING.

In this stage it will be necessary to reconsider every part of the picture; to soften, subdue, or brighten according to circumstances, those parts that may require retouching, with a view to harmony and general effect. Lamp-black may now be added to the palette, and employed wherever that colour may be deemed necessary. In the subject which we are treating it is not necessary; but wherever it may be necessary to touch here and there with this pigment, for the sake of sharpness and decision, its use should be deferred until this stage; because, if employed earlier, it will probably mislead the student into blackening the tone of the whole work. All the edges reflecting light, such as those of the castle, the mass of rock, figures, boat, &c., nearest the eye, must be sharpened and brought up to their proper degree of brilliancy, and all the dark points should be reduced to a proper depth; in short, in this stage must be effected all that cannot be properly done at any earlier stage.

The picture, having been finished according to the best taste and feeling of the painter, must be protected by having a piece of glass of the same kind as that on which it is painted fixed over it, in the manner already

described for the security of the outline; and in order to prevent injury from the contact of the glass laid over it, a narrow rim of thick paper should be interposed between the glasses. This may be attached, by means of paste or gum, to the exterior edge of the glass containing the picture, a space having been already provided for this, by the work not having been carried out to the extreme edge of the glass.

We may, if we please, execute the whole of the work on a single piece of glass. In this case, having perfected the outline, we secure it by passing over the face of the glass a thin wash of lac varnish or a varnish made of Canada balsam much diluted with turpentine.

If the lack varnish require to be diluted, spirits of wine must be employed for the purpose; and the varnishing should be performed before a fire, when it dries immediately, and we proceed to paint on the same surface. The varnish may be employed at the various stages, and at the finish of the work, to fix the colours. It is, however, advisable always to secure the finished painting by placing a glass before it.

Designs for the magic-lantern have hitherto been executed chiefly in oil colours; but for dissolving views, they are not equal in brilliancy and effect to those painted in water colours, by the manner already described.

The method of painting transparency-designs on glass with oil colours is in almost all respects similar to that

we have given for the use of water colours, the principal difference being in the materials only.

The same description of brushes, dabbers, &c., are used and the same list of colours are employed in oil, as in water colour painting, except that Italian pink is to be preferred to gamboge, as being richer and more transparent.

The oil colours employed are those commonly sold in tubes. The vehicles used to temper the oil colours and bring them to a proper strength and consistency for use are mastic varnish diluted with turpentine, and japanners' gold size also diluted with turpentine.

The latter is chiefly employed for those colours which do not dry well, such as madder lake and Italian pink.

For blues and the range of gray tones the colour of japanners' gold size is objectionable; for these, therefore, the diluted mastic varnish is to be used.

One of the most difficult things in transparent glass painting, is to secure a flat, clear, equal tint of blue for skies, &c., and this part of the work is of the utmost importance.

To obtain this desirable effect, the tint is laid on the glass as evenly as possible, and afterwards equalized by a careful application of the brush dabber.

Some painters use the point of the forefinger as a dabber, and when used with dexterity it is very effective.

A serviceable dabber may also be formed by tying a

little cotton wool in a piece of soft white kid. All these dabbers may in turn be employed with advantage.

Before this flat tint is permitted to dry we take out the necessary lights, as those of the clouds. By taking them out while the colour is wet, we are enabled to soften the edges if necessary, or we may leave them clear and sharp. Leather, or paper, rolled in the form of a stump, is useful in taking out lights.

In all other respects the instructions already given for the use of water colours apply to paintings in oil colours, and will be found sufficient to guide the learner in the use of them.

Water and oil colours may sometimes be both employed, with excellent effect, in the same painting, each having distinct qualities which, in some subjects, may be advantageously combined.

The water colours are delicate, clear and brilliant in their effects; while the solidity and rich fullness of tone attainable by the use of oil colours, are very eligible for particular objects, as in parts of foregrounds and figures where fullness of tone and strong relief are required.

Varnish colours are also employed in painting slides. They are prepared by grinding portions of powder colours with a muller on a thick plate-glass, either in mastic varnish, or in Canada balsam to which has been added

half its bulk in turpentine. Colours thus prepared may be kept in small bottles well corked. The brushes employed must occasionally be well cleaned in turpentine. But little of the required colour should be taken out at a time, and it may be spread on a piece of glass, or on an earthenware palette. If the colour be too thick, the addition of a little turpentine will bring it into working order.

For painting those parts which are to be impervious to light, a black may be obtained by using asphaltum dissolved in turpentine, to which lamp-black is added.

Any colour that has dried on may be removed by the point of a penknife: and in this way white or coloured lines may be produced on black surfaces—that is by scratching through the black with a point, and colouring where necessary.

In painting slides, care must be taken to allow for the effect of the colour of the artificial light to be used in the lantern; such light being always of a yellow cast will alter the tone of the colours materially, converting certain mixtures of blue and red into a neutral tint—as where reds have been used with blue, or where much purple has been employed. A frequent examination of the effects produced by the light of a lamp on colour will soon accustom the artist to regulate the tones of his picture with perfect success.

PART III.

MECHANICAL SLIDES.

By means of mechanical slides, many curious and interesting effects may be produced. Two kinds are shown in the accompanying cuts

FIG. 5.

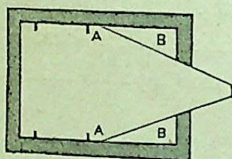


FIG. 6.

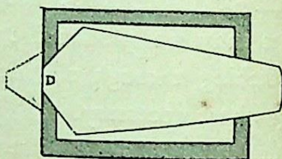
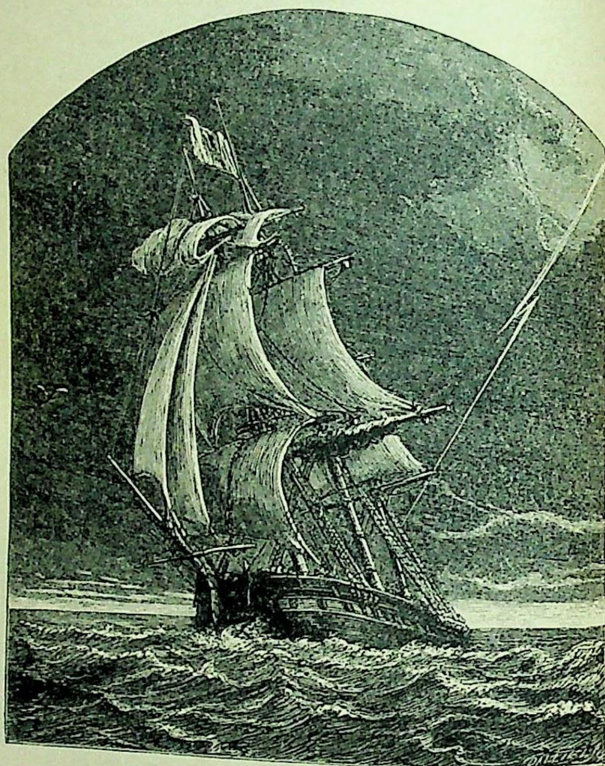


Figure 5 consists of a framed piece of glass, with two supplementary pieces, one on each side moveable, until the points A come into contact with the points B. The shifting pieces are kept in the frame by the brass pins, which allow them to work easily back and forward.

This kind of slide is useful in the production of different effects. Suppose, for instance, a ship struck with lightning is to be represented, the subject must be painted on the framed glass shown in Figure 7.

On one of the moveable pieces must be painted tints to



hide the flash of lightning, and also the high lights on the vessel and on the sea.

These tints will represent, as to forms, a discretional composition ; but this must correspond in feeling with the description of a storm In order to coincide with those parts of the picture which it is intended to shut out or cover, the painting must be executed upon the moveable piece of glass so that, when pushed into the frame as far as it will go, it may shut out and cover very accurately those parts of the picture which must necessarily be excluded for the sake of the desired effect.

Upon the other moveable piece of glass, the upper spars and rigging of the vessel must be painted. When in use, this must be drawn out until the representation is stopped out by the points coming in contact with those of the frame ; broken spars and torn rigging being represented as if falling over the side of the ship.

When the first moveable piece is rapidly shifted, the effect of lightning illuminating the vessel and the water will be rendered with great truth. Repeat this several times, and shift the second glass, not backwards and forwards like the first, but simply pull it out to its full extent, and it will appear as if the vessel were struck by lightning, and the spars and rigging were falling overboard. By continuing the movement of the first piece,

the lightning may be kept playing round the devoted ship as long as the picture is exhibited.

This kind of slide is also used for grotesque and comic effects, as shown in these examples.

Both of these pictures may be painted entirely upon the framed pieces of glass, while the shifting pieces must be painted with lamp-black, so as to shut out those parts which it is desirable to exclude.

In reference to the two combatants, Figure 8, the first piece of the glass, when pulled out to its full extent, must hide the lower arms, and the swords; and, when pushed into the frame, must hide the upper arms.

The second piece, when closed or pushed into the frame, should hide the centre arm and sword of the figure to the right, and the right arm and sword above the figure on the left; and, when pulled out to its full extent, must hide all that it is not necessary to express the idea of one figure having given, and of the other having received, a severe wound.

By the movement of the first piece of glass backwards and forwards, the action of fencing is described; and, by pulling out the second, a fatal termination to the fight is shown.

In the next subject, Figure 9, the action of the boy beating the donkey and of the donkey kicking, are given by one moveable piece of glass; and the appearance of





the boy being thrown off the back of the animal, is given by the other.

With this useful slide, and a little ingenuity and taste on the part of the artist, many agreeable and amusing subjects may be produced.

In all cases where the backgrounds are similar to those of the pictures we are treating, they must be black; and, as they cannot be protected by additional pieces of glass, they must be varnished with mastic varnish diluted with turpentine—equal parts of each; and, in order to prevent the paintings being worn by the action of the moveable pieces of glass, strips of thick paper must be pasted between them to prevent contact, as in the manner already recommended for the protection of the landscape subject.

When parts of the subject are painted upon the moveable pieces of glass, as in the representation of the effect of lightning, the shifting pieces, when finished, should change places, so as to bring the painted parts inside.

Figure 6 is a framed piece of glass, having on one side another piece moveable on the same principle as in Figure 5, but capable of being shifted backward and forward only a short distance. On the other side there must be also a piece of glass, of the same shape as that in the illustration, and working upon a rivet at the point D.

This kind of slide is used for the representation of the

heads of men or animals; and by such means the appearance of vitality and movement is given to the eyes and mouths. Upon the first piece of glass the pupils of the eyes are painted, and upon the second the lower jaw is drawn; and this must always be dark, so as to hide the colouring of the interior of the mouth.

FIG. 10.

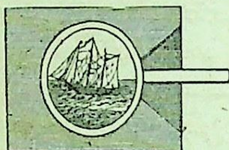


FIG. 11.



Figure 10 is a circular piece of glass, framed in brass, with another piece of glass, and having a handle. The second is moveable to the extent of the dark section, which represents a space cut out of the frame, to allow the handle to work up and down.

This slide is intended to describe the rolling movement of a ship on the sea. Upon the first space will be painted the sky and the light parts of the sea; and upon the glass in the brass frame the ship, and the dark markings or shading of the long waves, must be represented.

The centre of the hull of the vessel must be drawn in the centre of the glass, if the ship be advancing towards, or receding from the spectator, otherwise the rolling will be too violent.

In order to give the representation of a ship moving in her course there must be other objects in the composition, or, at least, various forms which she must appear as if in the act of passing. To secure a successful representation of this, the ship and the waves, in the nearest section of the picture, must be painted in the same manner; and if the vessel be proceeding along a shore, or up a river, a long slide, containing a view of the shore and the land objects, must be moved along very gently behind the ship, as this, if carefully managed, will communicate to the ship the appearance of movement.

To perfect this effect, the two parts of the composition must be opposed to each other on the same principle as that already described—that is, the stronger tints must supersede the lighter. Thus the landscape or shore picture must be painted in tones easily subdued by those of the ship, which must be so deeply tinted as to cover the forms that pass behind it.

Figure 11 is a circular piece framed, and having a second piece in a cogged frame, which is made to revolve by means of a rack handle. This form is necessary for astronomical slides, by which means are shown the revolution of the planets round the sun, that of the moon round the earth; or the passage of a ship round the globe, thus exhibiting the rotundity of the earth.

Slides of this construction are necessary for all effects in which revolving movement is to be described, as the

sails of a windmill, or any similar action. But great caution must be exercised, that the centre of the revolving action be precisely the centre of the circular glass— that is, if a windmill be represented, that the centre from which the sails are carried out coincide with the centre of the glass, in order to secure a true revolution; and the utmost care must also be employed in the adjustment of the two glasses—that is, of that on which the motion is described, and that on which the stationary part of the picture is painted.

FIG. 12.

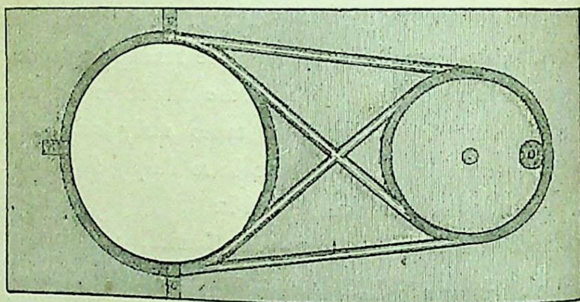
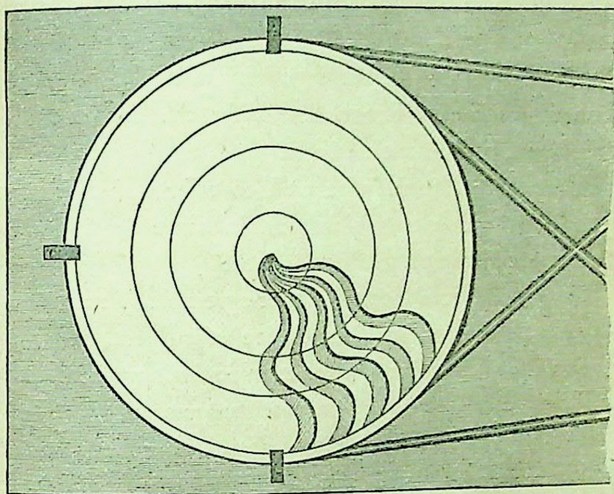


Figure 12 is constructed of two circular pieces of glass in brass frames, and having grooves round them. These are made to revolve in reverse directions, and simultaneously, as shown in the illustration. This kind of frame is used for chromatrope effects, which are produced by painting variously tinted rays from the centre to the

circumference of the circles, and, of course, graduating in breadth as they proceed to the extremities of the circle, in the manner shown below, Fig. 13.

FIG. 13



If two circles be painted alike with eccentric rays of colour, showing only primary colours in their prismatic order, and leaving a small ray of white between each tint used, when turned face to face and made to revolve reversely, they will throw out the most beautiful and brilliant hues. According to the way in which they are made to turn, they expand or contract.

Such experiments are not only extremely pleasing, but also of great utility in suggesting for manufacturing designs some of the most beautiful combinations of colour.

Chromatrope effects are of inexhaustible variety. It is only necessary here to describe the method of painting and the mechanical appliances for adapting the pictures and figures. The taste and ingenuity of the operator will devise a thousand different designs for the display of the most beautiful chromatic effects.

In conclusion, it may be well to offer a few general remarks, attention to which will, in some degree, serve the student in the place of experience.

It will soon be understood that agreeable pictures can only result from a judicious choice of subject, and that much of the perfection of execution depends upon method and arrangement at every stage of progress.

If glass painting according to these instructions be the student's initiatory essay in art, it is indispensable that he select, as a beginner, a subject of the simplest kind. As experience is acquired, more difficult subjects may be attempted.

With respect to the palette, economy and perfect cleanliness should be observed. The most available arrangement of colours is to place the lightest near the thumb, and between the colours should be placed the tints that are formed by their admixture. This will

contribute much to make the student acquainted with the tints and colours both in their relations and in their infinite varieties.

In every department of art it is most valuable to know when a picture may be considered complete. Unless a picture can obviously be improved, it will be advisable to let well alone. After a composition has been carefully and judiciously finished, it is idle to try experiments, for these only end in disappointment. Inasmuch, however, as experience will be gathered from each picture, every effort should be exerted to render each successive work better than those which have preceded it.

THE END.

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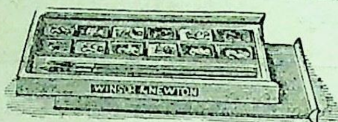
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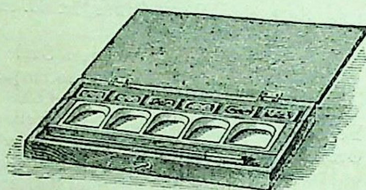
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6 Cake "Slide" Box, with brushes	0	6	0
12 Ditto ditto ditto	0	12	0
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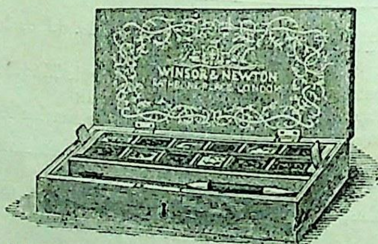
"LID"



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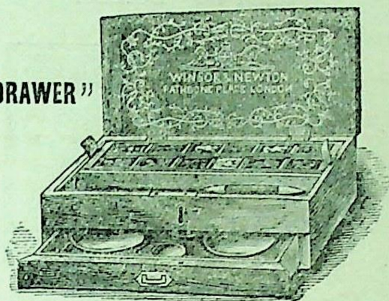
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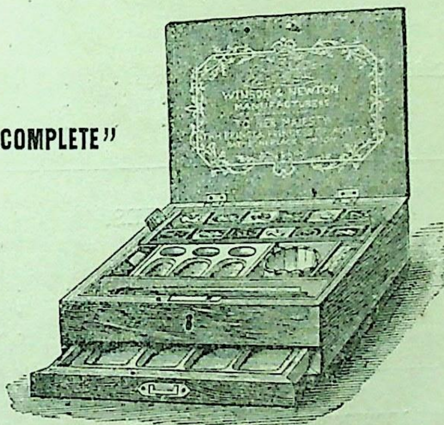
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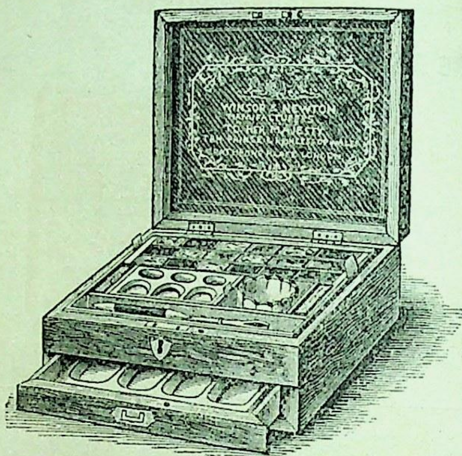
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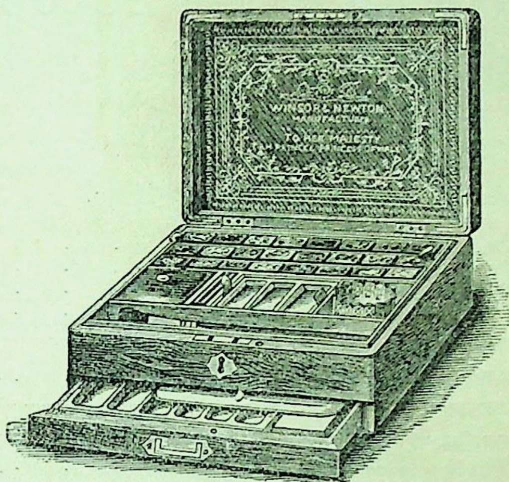
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18 Ditto ditto ditto	3	3	0
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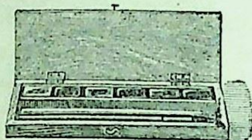
				£	s.	d.
12 Cake "Handsome" Box, with first class fittings			.	3	13	6
18 Ditto	ditto	ditto	. . .	4	14	6
24 Ditto	ditto	ditto	. . .	6	6	0
36 Ditto	ditto	ditto	. . .	9	9	0
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18 Ditto	ditto	ditto	. . .	5	15	6
24 Ditto	ditto	ditto	. . .	8	8	0
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18 Ditto ditto ditto	12	0
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12 HALF CAKE "CADDY LID" Box, with full fittings	20	0
18 Ditto ditto ditto	25	0

N.B.—Whole Cake Water Colour Boxes, manufactured of Spanish Mahogany, Rosewood, Ebony, Walnut, and other choice Woods, in the first style of workmanship, and variously fitted with every requisite for Miniature, Figure, or Landscape Painting, Engineering &c., from £30 to £100. Also Brass Bound Boxes for India, &c.

WINSOR & NEWTON'S

MOIST WATER COLOURS

IN PORCELAIN PANS.

WINSOR AND NEWTON'S Moist Water Colours *are prepared after peculiar processes, and by a system of treatment known only to the Makers.* Their characteristic qualities of easy solubility and prompt readiness for use are retained, unimpaired, for an unlimited period of time; so that a box of them, which may have been laid aside for two or three years, when required for use will be found *no less serviceable than when first purchased.* Climate also fails to affect these colours, which are found to be, and to remain, no less "Moist" in Tropical countries than in England; accordingly, they are confidently recommended to persons who are going to INDIA, and to all residents in the East. While having this valuable quality of solubility in their solid form, they possess another and all important one, *in drying perfectly firm on the paper* when in use. Their tints, too, are pure and luminous, and their washes clear and even.

In Sketching from Nature, and, when representing transient and evanescent effects, the superiority of the Moist Colours is at once felt and appreciated. Ever ready for instant application, they enable the desired tint to be produced *at once*—a result unattainable by the old tedious method of rubbing dry cakes, which not unfrequently permits the effect, and with it the *thought* of the artist to vanish, before the material can be obtained. It was this quality which, on their first introduction, secured for Winsor and Newton's Moist Colours the eminent popularity that they still enjoy with both professional and amateur artists.

The Moist Colours are placed in pans (in their size resembling the ordinary dry-cakes) of thin porcelain, and they are afterwards enclosed in tin-foil for greater security. When required for use, the foil is removed. A surface of colour is then presented to the artist, which is obtainable in any quantity, simply by the application of a wet brush.

WINSOR & NEWTON'S

MOIST WATER COLOURS,

IN

WHOLE AND HALF CAKE PORCELAIN PANS.



WHOLE CAKE PAN.



HALF CAKE PAN.

WHOLE PANS, 1*s*. each.—HALF PANS, 6*d*. each.

Antwerp Blue
Bistre
Blue Black
Brown Ochre
Brown Pink
Burnt Sienna
Burnt Umber
Chinese White
Chrome Yellow
Cologne Earth
Deep Chrome
Emerald Green
Gamboge
Hooker's Green, No. 1.
Hooker's Green, No. 2.
Indian Red
Indigo
Italian Pink
Ivory Black
Lamp Black
Light Red
Naples Yellow
Neutral Tint
New Blue
Olive Green
Orange Chrome
Payne's Grey
Prussian Blue
Prussian Green
Raw Sienna
Raw Umber
Roman Ochre
Sap Green
Terre Verte
Vandyke Brown
Venetian Red
Vermilion
Yellow Lake
Yellow Ochre

WHOLE PANS, 1*s.* 6*d.* each. HALF PANS, 9*d.* each.

Brown Madder
Crimson Lake
Indian Yellow
Leitch's Blue
(or Cyanine Blue)
Mars Yellow
Neutral Orange
Purple Lake
Roman Sepia
Rubens' Madder
Scarlet Lake
Scarlet Vermilion
Sepia
Warm Sepia

WHOLE PANS, 2*s.* each.—HALF PANS, 1*s.* each.

Cobalt Blue
Orange Vermilion
Violet Carmine

WHOLE PANS, 3*s.* each.—HALF PANS, 1*s.* 6*d.* each.

Aureolin
Burnt Carmine
Cadmium Yellow, Pale
Cadmium Yellow
Cadmium Orange
Carmine
French Blue
(or French Ultramarine)
Gallstone
Green Oxide Chromium
Indian Purple
Intense Blue
Lemon Yellow
Pink Madder
Pure Scarlet
Rose Madder
(or Madder Lake)
Viridian

WHOLE PANS, 5*s.* each.—HALF PANS, 2*s.* 6*d.* each.

Mars Orange
Purple Madder
Smalt
Ultramarine Ash

WINSOR & NEWTON'S

PATENT-FLEXIBLE-DIVISION

JAPANNED TIN BOXES OF

MOIST WATER COLOURS.

(See illustration on opposite page.)

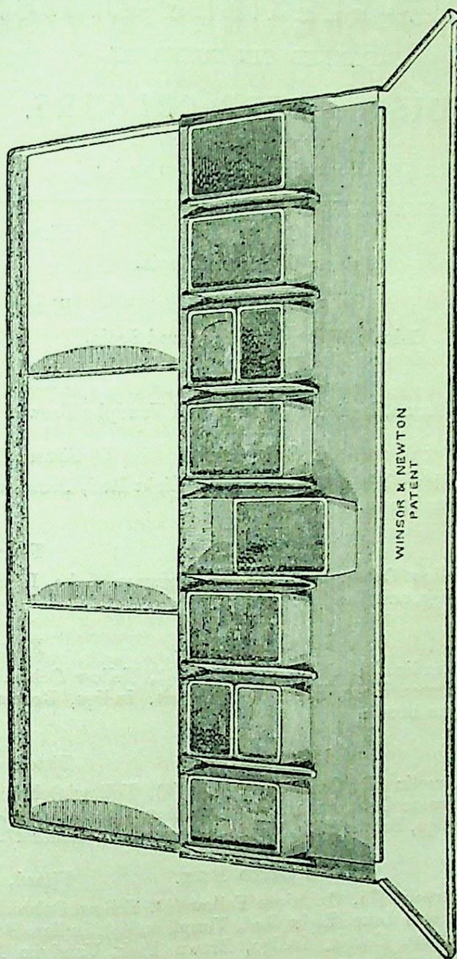
It has long been felt as a considerable inconvenience, that in ordinary Boxes of Moist Colours the pans cannot be removed (without breakage or damage), in consequence of their having to be fastened to the bottom of the box to prevent their falling out. Virtually it is impossible for the purchaser to alter the arrangement of the colours, and generally nothing but the breakage of the empty pan, (and sometimes the division of the box as well,) will enable him to replace a spent colour.

Winsor & Newton's *Patent-Flexible-Division Box* obviates these annoyances, and permits of colours being inserted and taken out, or re-arranged at pleasure.

N.B.—Winsor & Newton's Japanned Tin Boxes for Moist Water Colours are light and strong, with flaps of a dead white colour, serving as palettes. The Selections of Colours placed in them have been made with much care, and after due study of the various lists of the first Water Colour Artists.

N.B.—In all cases of Boxes of Moist Water Colours the prices quoted are for the Box and the Moist Colours contained therein only: no general fittings being included.

WINSOR & NEWTON'S PATENT-FLEXIBLE-DIVISION MOIST COLOUR BOX.



PATENT-FLEXIBLE-DIVISION BOX OF MOIST WATER COLOURS.

(For Prices see pages 16 and 17.)

WINSOR & NEWTON'S

PATENT-FLEXIBLE-DIVISION

JAPANNED TIN BOXES OF

MOIST WATER COLOURS.

(*See illustration on previous page.*)

(Empty, 3s. 6d.) **2 Cake Box.** Fitted, 5s. 6d.
Chinese White, and Sepia.

(Empty, 4s.) **3 Cake Box.** Fitted, 6s. 6d.
Chinese White, New Blue, and Sepia.

(Empty, 4s. 6d.) **4 Cake Box.** Fitted, 8s. 6d.
Raw Sienna, Light Red, Cobalt, and Vandyke Brown.

(Empty, 5s.) **6 Cake Box.** Fitted, 10s. 6d.
Gamboge, Yellow Ochre, Crimson Lake, Light Red, Prussian Blue, and Vandyke Brown.

(Empty, 6s.) **8 Cake Box.** Fitted, 14s.
Gamboge, Yellow Ochre, Burnt Sienna, Crimson Lake, Light Red, Cobalt, Indigo, and Vandyke Brown.

(Empty, 6s. 9d.) **10 Cake Box.** Fitted, 18s.
Gamboge, Aureolin (½), Cadmium Yellow (½), Yellow Ochre, Burnt Sienna, Crimson Lake, Light Red, Cobalt, Indigo, Brown Pink, and Vandyke Brown.

(Empty, 7s. 6d.) **12 Cake Box.** Fitted, £1 1s.
Gamboge, Aureolin (½), Cadmium Yellow (½), Yellow Ochre, Burnt Sienna, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Cobalt, Indigo, Brown Pink, Vandyke Brown, and Neutral Tint.

(Empty, 8s. 3d.) **14 Cake Box.** Fitted, £1 5s.
Gamboge, Aureolin (½), Cadmium Yellow (½), Yellow Ochre, Burnt Sienna, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Brown Madder, Cobalt, Indigo, Brown Pink, Vandyke Brown, Neutral Tint, and Sepia.

(Empty, 9s.) **16 Cake Box.** Fitted, £1 11s. 6d.

Gamboge, Aureolin (½), Pale Cadmium Yellow (½), Yellow Ochre, Cadmium Yellow (½), Cadmium Orange (½), Burnt Sienna, Rose Madder, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Brown Madder, Cobalt, Indigo, Emerald Green (½), Viridian (½), Brown Pink, Vandyke Brown, and Neutral Tint.

(Empty, 10s. 6d.) **18 Cake Box.** Fitted, £1 15s.

Gamboge, Aureolin (½), Pale Cadmium Yellow (½), Yellow Ochre, Cadmium Yellow (½), Cadmium Orange (½), Burnt Sienna, Rose Madder, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Brown Madder, Purple Lake, Cobalt, Indigo, Emerald Green (½), Viridian (½), Brown Pink, Vandyke Brown, Neutral Tint, and Sepia.

(Empty, 12s.) **20 Cake Box.** Fitted, £2 2s.

Gamboge, Aureolin, Raw Sienna (½), Pale Cadmium Yellow (½), Yellow Ochre, Cadmium Yellow (½), Cadmium Orange (½), Burnt Sienna, Rose Madder, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Brown Madder, Purple Lake, Cobalt, French Blue, Indigo, Emerald Green (½), Viridian (½), Brown Pink, Vandyke Brown, Neutral Tint, and Sepia.

(Empty, 15s.) **24 Cake Box.** Fitted, £2 12s. 6d.

Gamboge, Aureolin, Lemon Yellow (½), Raw Sienna (½), Yellow Ochre, Pale Cadmium Yellow (½), Cadmium Orange (½), Cadmium Yellow, Burnt Sienna, Rose Madder, Crimson Lake, Light Red, Vermilion (½), Indian Red (½), Brown Madder, Purple Lake, Cobalt, French Blue, Prussian Blue, Indigo, Viridian (½), Emerald Green (½), Terre Verte (½), Oxide of Chromium (½), Olive Green, Brown Pink, Vandyke Brown, Neutral Tint, and Sepia.

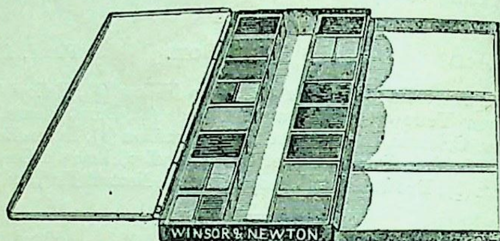
(Empty, 18s.) **30 Cake Box.** Fitted, £4 4s.

Gamboge, Pale Cadmium Yellow (½), Lemon Yellow (½), Aureolin, Raw Sienna, Yellow Ochre, Cadmium Yellow, Cadmium Orange, Mars Orange, Burnt Sienna, Rose Madder, Carmine, Crimson Lake, Light Red, Orange Vermilion, Vermilion (½), Indian Red (½), Brown Madder, Purple Madder, Burnt Carmine, Violet Carmine, Smalt (½), Intense Blue (½), Emerald Green (½), Viridian (½), Ultramarine Ash, Cobalt, French Blue, Prussian Blue, Oxide of Chromium (½), Terre Verte (½), Brown Pink, Vandyke Brown, Neutral Tint, and Sepia.

WINSOR AND NEWTON'S

JAPANNED TIN BOXES OF

MOIST WATER COLOURS.



JAPANNED TIN BOX OF MOIST WATER COLOURS

The Lists of Colours are the same as placed in the Patent-Flexible-Division Boxes of Moist Water Colours, (Pages 16, and 17).

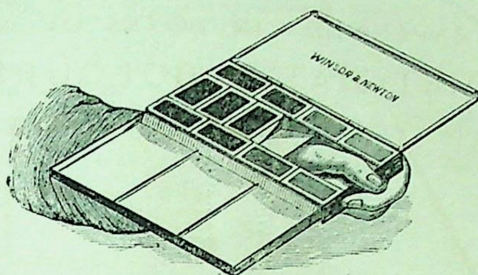
WHOLE CAKE.

Empty. s.	d.		Fitted with Colours. £	s.	d.	Empty. s.	d.		Fitted with Colours. £	s.	d.
3	0	2 Cake . . .	0	5	6	6	9	14 Cake . . .	1	5	0
3	3	3 „ . . .	0	6	6	7	6	16 „ . . .	1	11	6
3	6	4 „ . . .	0	8	6	8	3	18 „ . . .	1	15	0
4	0	6 „ . . .	0	10	6	9	0	20 „ . . .	2	2	0
4	6	8 „ . . .	0	14	0	9	9	22 „ . . .	2	5	0
5	8	10 „ . . .	0	18	0	10	6	24 „ . . .	2	12	6
6	0	12 „ . . .	1	1	0	12	6	30 „ . . .	4	4	0

HALF CAKE.

Empty. s.	d.		Fitted with Colours. £	s.	d.	Empty. s.	d.		Fitted with Colours. £	s.	d.
3	3	3 Half Cake .	0	5	0	6	0	14 Half Cake .	0	15	0
4	0	6 „ .	0	7	6	6	6	16 „ .	0	18	0
4	6	8 „ .	0	9	0	7	0	18 „ .	1	1	0
5	0	10 „ .	0	10	6	7	6	20 „ .	1	5	0
5	6	12 „ .	0	12	6	8	6	24 „ .	1	11	6

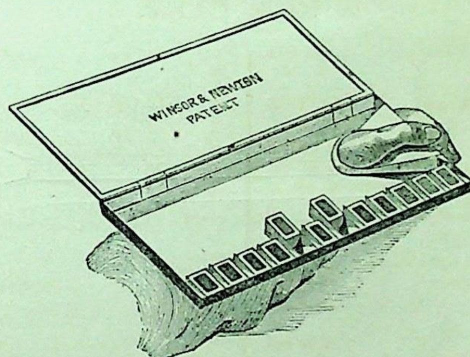
WINSOR & NEWTON'S THUMB-HOLE BOXES.



THUMB-HOLE BOX.

Empty. s.	d.		Fitted with Colours. £	s.	d.
9	0	11 Cake Moist Water Colour Thumb-hole Box .	1	5	0
10	6	17 ,, ditto	1	15	0
12	0	21 ,, ditto	2	5	0

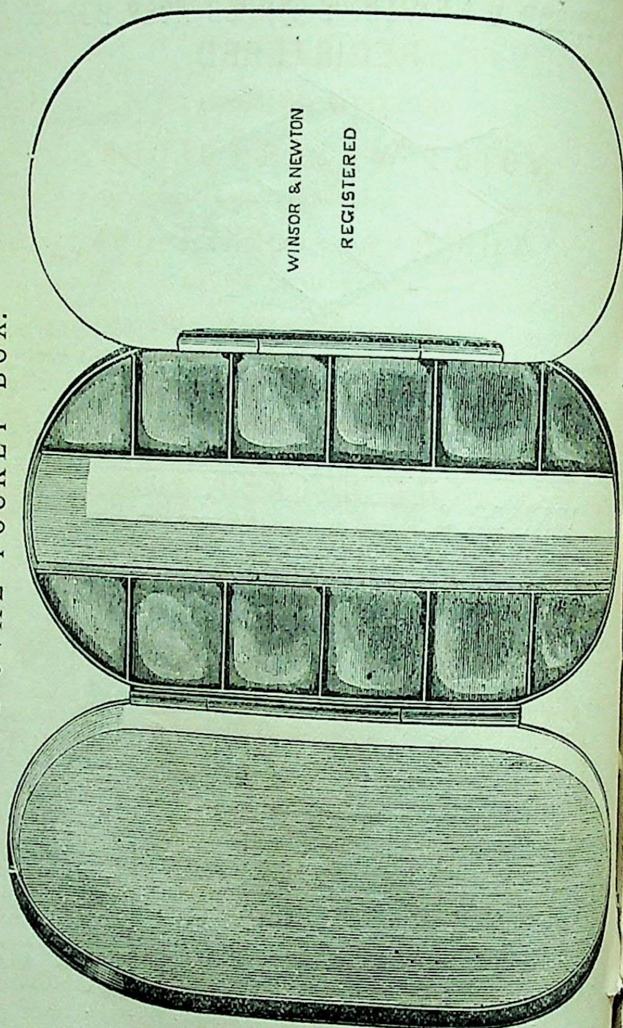
WINSOR & NEWTON'S PALETTE-BOXES.



PALETTE BOX.

Empty. s.	d.		Fitted with Colours. £	s.	d.
5	0	6 Half Cake Moist Water Colour Palette Box with Patent Flexible Divisions . . .	0	8	6
5	6	8 Ditto ditto ditto . . .	0	10	6
6	0	10 Ditto ditto ditto . . .	0	12	6
6	6	12 Ditto ditto ditto . . .	0	15	0

THE OVAL-POCKET-BOX.



THE OVAL-POCKET-BOX.
(Size of the box.)

WINSOR & NEWTON'S

REGISTERED

JAPANNED TIN BOXES OF

MOIST WATER COLOURS.

THE OVAL-POCKET-BOX.

REGISTERED NO. 257,752.

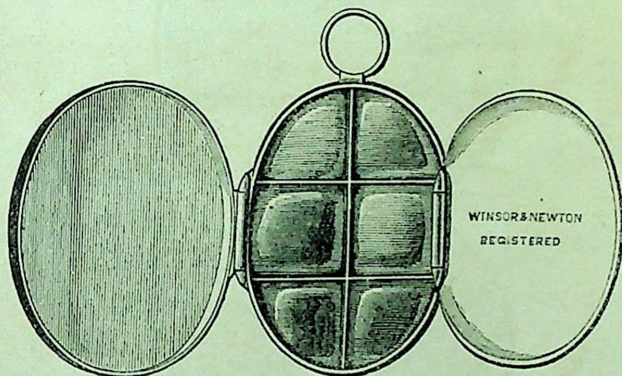
(*As illustrated on opposite page.*)

Very convenient for the pocket, both in shape and size. Contains twelve Colours, and has a division for brushes.

Fitted with twelve Colours, Price 15*s.*

THE LOCKET BOX.

REGISTERED NO. 257,753.



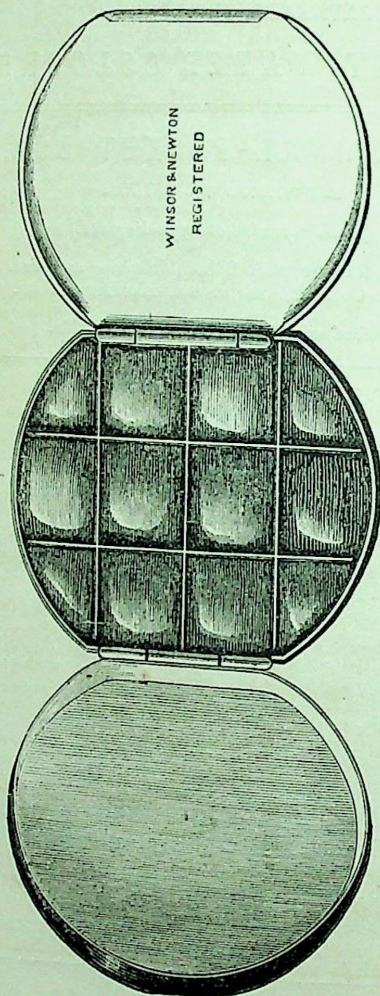
THE LOCKET BOX.
(*Size of the box.*)

A neat, light, bijou Box, that can be carried on a watch-guard or chain, and containing six Colours.

Fitted with six Colours, Price 6*s.* 6*d.*

WINSOR & NEWTON'S
REGISTERED JAPANNED TIN BOXES OF MOIST WATER COLOURS.
CONTINUED.

THE PORTE-COULEUR.
REGISTERED NO. 215,673.



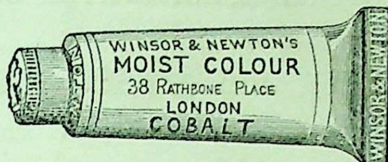
THE PORTE-COULEUR.
(Size of the box.)

Small and compact for the waistcoat-pocket. Contains twelve Colours.

Fitted with twelve Colours, Price 10s. 6d.

WINSOR & NEWTON'S MOIST WATER COLOURS

IN COLLAPSIBLE TUBES.



Moist Tube Colours, though somewhat wasteful and troublesome in use, are of assistance as furnishing quickly a quantity of colour, and affording facilities for power of touch and vigour of effect. They should, however, be used within reasonable time, as they do not keep so long or so well as the ordinary solid or "Pan" form of Moist Colour.

1*s*. each.

Antwerp Blue	Deep Chrome	Naples Yellow	Raw Umber
Bistre	Emerald Green	Neutral Tint	Roman Ochre
Blue Black	Gamboge	New Blue	Terre Verte
Brown Ochre	Indian Red	Olive Green	Vandyke Brown
Brown Pink	Indigo	Orange Chrome	Venetian Red
Burnt Sienna	Italian Pink	Payne's Grey	Vermilion
Burnt Umber	Ivory Black	Prussian Blue	Yellow Lake
Chinese White	Lamp Black	Prussian Green	Yellow Ochre
Chrome Yellow	Light Red	Raw Sienna	

1*s*. 6*d*. each.

Brown Madder	Leitch's Blue (or Cyanine Blue)	Purple Lake	Scarlet Vermilion
Crimson Lake	Mars Yellow	Roman Sepia	Sepia
Indian Yellow	Neutral Orange	Scarlet Lake	Warm Sepia

2*s*. each.

Cobalt Blue	Orange Vermilion	Violet Carmine

3*s*. each.

Aureolin	Cadmium Orange	Gallstone	Rose Madder (or Madder Lake)
Burnt Carmine	Carmine	Green Oxide Chrom.	Viridian
Cadmium Yellow, Pale	French Blue (or French Ultramarine)	Indian Purple	
Cadmium Yellow		Pink Madder	

5s. each.

Mars Orange	Purple Madder	Ultramarine Ash	Smalt

JAPANNED TIN BOXES OF MOIST TUBE WATER COLOURS,

Containing 12 Moist Tubes £1 1*s*.; 15 ditto, £1 11*s*. 6*d*.; 20 ditto, £2 2*s*.; 24 ditto, £2 12*s*. 6*d*.; 30 ditto, £3 13*s*. 6*d*.

WINSOR & NEWTON'S

GLASS-COVERED MOIST WATER COLOURS

FOR

Illumination and Missal Painting,

Decorative and Ornamental Work, &c.

(*See illustration on opposite page.*)

The complete separation effected by the Colours being contained in separate Gallipots, the protection afforded by the glass lids, and the convenience of seeing tints through them, cause this form of colour to be most useful in all cases where it is of importance to avoid dust, dirt, and accidental admixture of tints. WINSOR and NEWTON'S Glass-Covered Moist Colours, being preserved clean and unsullied while in use, have been adopted generally for Illumination, and all kindred arts.

Colours and Prices same as those of Moist Water Colours in Pans. Pages 12 and 13.

WINSOR & NEWTON'S

FITTED BOXES

OF GLASS-COVERED COLOURS AND MATERIALS

FOR

Illumination and Missal Painting,

DECORATIVE AND ORNAMENTAL WORK, &c.

Half Guinea Box.—Containing seven Half Colours in Pans, and fittings.

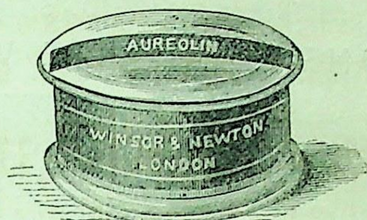
Guinea Box.—Containing eight Glass-covered Colours, and Materials.

Guinea and a Half Box.—Containing twelve ditto ditto.

Two Guinea Box.—Containing sixteen ditto ditto.

Three Guinea Box.—Containing twenty-one ditto ditto.

Five Guinea Box.—Containing twenty-four ditto and complete Materials.



GLASS-COVERED MOIST WATER COLOUR.

(*See opposite page.*)

WINSOR & NEWTON'S

JAPANNED TIN BOX OF COLOURS AND MATERIALS FOR

PAINTING ON GLASS.

Price £2 2*s.*

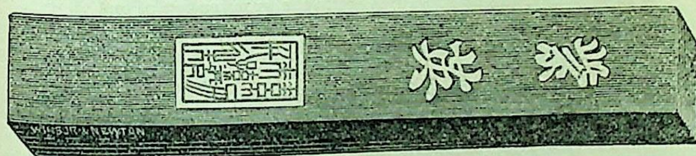
WINSOR & NEWTON'S FRENCH POLISHED MAHOGANY

CADDY LID BOX OF COLOURS AND MATERIALS FOR

Heraldic Blazoning.

Price £3 3*s.*

INDIAN INK.

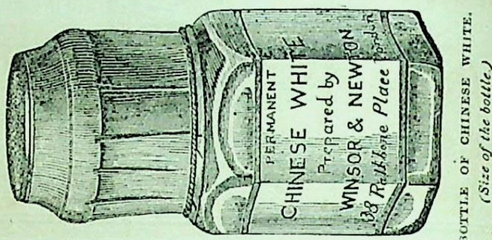


"SUPER SUPER" INDIAN INK.—(*Size of Stick.*)

	Per stick. s.	d.		Per stick. s.	d.
Good, small size 80 to the lb.	0	6	Best, larger, 40 to the lb.	1	6
Best, small size, ,, ,,	1	0	Best, larger, 32 ,,	2	6
Very Choice "Super, Super" . . . . . per stick				7	6

WINSOR & NEWTON'S

PERMANENT CHINESE WHITE.



BOTTLE OF CHINESE WHITE.
(Size of the bottle.)

WINSOR AND NEWTON'S Oxide of Zinc, sold under the name of

CHINESE WHITE.

A peculiar preparation of White Oxide of Zinc, the only eligible White Pigment for Water Colour Painters.

PRICE 1s. PER BOTTLE.

It is now upwards of *thirty-seven years* since WINSOR AND NEWTON turned their attention to remedying a want that was much felt by the Water Colour Painters of that day, viz.: of a White that should combine perfect permanency with good body in working. The invention and introduction of the pigment named by them "Chinese White" was the result, and its superior body and freedom of working immediately attracted the notice of the leading Water Colour Painters.

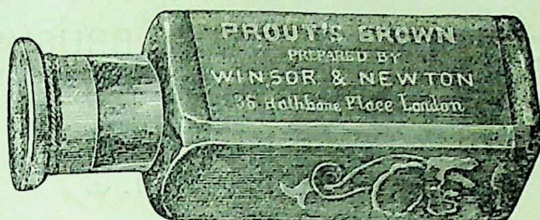
The late Mr. J. D. Harding being particularly desirous of ascertaining its permanency, and by submitting it to the examination of one of the greatest Chemists in Europe (the late M. Faraday), having satisfied himself that it might be employed with perfect safety, strongly recommended it in preference to all other white pigments. In his "*Principles and Practice of Art,*" he wrote:—

"When this pigment, which is prepared by Winsor and Newton under the name of 'Chinese White' was first put into my hands, some years ago, I applied to one of my friends, whose name as a chemist and philosopher is amongst the most distinguished in our country, to analyze it for me, and to tell me if I might rely on its durability; the reply was, that if it would in all other respects answer the purpose I required of it, I had nothing to fear on account of its durability."

Ever since that time (1834) WINSOR AND NEWTON'S Chinese White has been in use by all the Eminent Water Colour Artists, and it is a source of great satisfaction to WINSOR AND NEWTON that they are able to say, *that in no instance has any work of art, in which their White has been used, suffered from its employment*, while prior to its introduction the complaints of Whites changing were of every day occurrence.

WINSOR & NEWTON'S

WATER COLOUR LIQUIDS, MEDIUMS, &c.



BOTTLE OF LIQUID COLOUR.
(Size of the bottle.)

		s.	d.
Liquid Indelible Brown Ink, for Outlines or for Sketching	per bottle	1	6
Liquid Prout's Brown	,,	1	6
Liquid Sepia	,,	1	6
Liquid Asphaltum. (In bottles similar to illustration on opposite page)	,,	1	6
Liquid Carmine	,,	1	6
Liquid Indian Ink, for Architects, Surveyors, &c.	,,	1	0
Colourless Liquid Ox Gall	,,	1	0
Artist's prepared Gum Water; pure, clear, and strong . . . . . small bottles .	,,	0	6
Ditto ditto middle bottles	,,	0	9
Ditto ditto large bottles .	,,	1	0
Water Colour Megilp	,,	1	6
Illuminating Body, for Illumination, Missal Painting, &c.	,,	1	6
Raising Preparation, for Illumination, Missal Painting, &c.	,,	1	6
Water Mat Gold Size	per gallipot	1	6
Prepared Ox Gall	,,	0	6

WINSOR & NEWTON'S

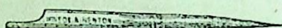
FINEST

BROWN OR RED SABLE BRUSHES

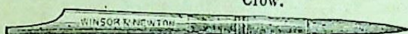
IN QUILLS

FOR

WATER COLOUR PAINTING.



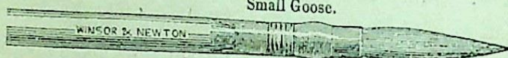
Crow.



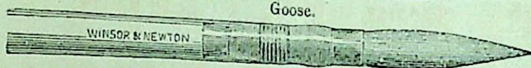
Duck



Small Goose.



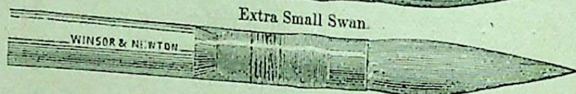
Goose.



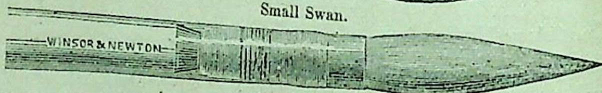
Extra Goose.



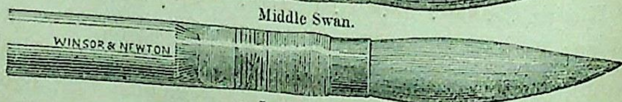
Extra Small Swan.



Small Swan.



Middle Swan.



Large Swan.

WATER COLOUR SABLES IN QUILLS.
(Sizes of the Brushes.)

WINSOR & NEWTON'S

FINEST BROWN OR RED **SABLES IN QUILLS.**

(See illustrations on opposite page.)

		s.	d.			s.	d.
Crow . .	each	0	6	Extra Small Swan .	each	4	6
Duck . .	,,	0	8	Small ,, .	,,	6	6
Goose . .	,,	1	0	Middle ,, .	,,	8	6
Extra Goose .	,,	1	6	Large ,, .	,,	10	6

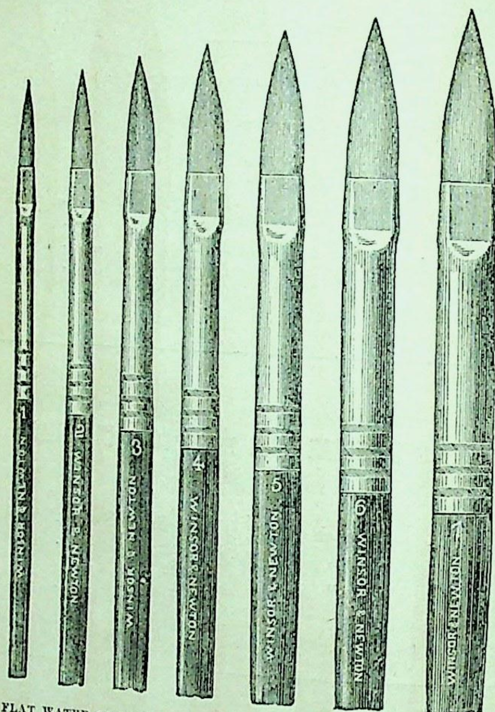
FINE **SIBERIAN HAIR** BRUSHES **IN QUILLS.**

		s.	d.			s.	d.
Crow	each	0	2	Extra Small Swan .	each	1	6
Duck	,,	0	4	Small ,, .	,,	2	6
Goose	,,	0	6	Middle ,, .	,,	3	6
				Large ,, .	,,	5	0

CAMEL HAIR BRUSHES **IN QUILLS.**

		s.	d.			s.	d.
Crow	each	0	1	Extra Small Swan .	each	0	9
Duck	,,	0	1	Small ,, .	,,	1	0
Goose	,,	0	2	Middle ,, .	,,	1	6
				Large ,, .	,,	2	0

WINSOR & NEWTON'S
FINEST BROWN OR RED WATER COLOUR SABLES IN ALBATA.—FLAT.

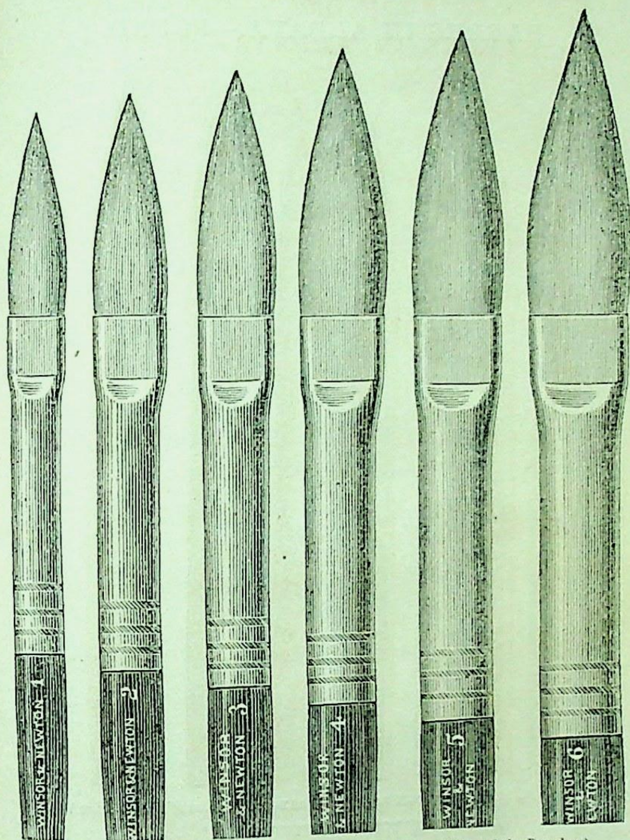


FLAT WATER COLOUR SABLES IN ALBATA.—(*Sizes of the Brushes.*)

		s.	d.
No. 1	each	1	0
" 2	"	1	3
" 3	"	1	6
" 4	"	2	0
No. 5	each	2	6
" 6	"	3	0
" 7	"	4	0

N.B.—These Brushes have *Ebony* Handles, and are marked with *three* nerls on their *Albata* Ferrules.

DITTO.—EXTRA LARGE SERIES.

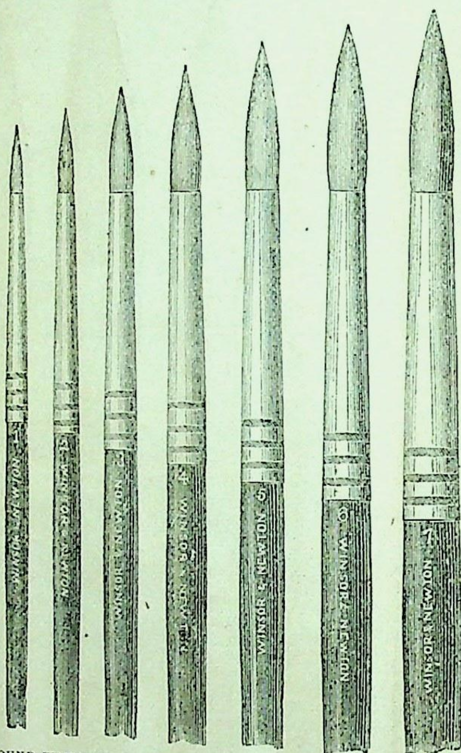


FLAT SABLES IN ALBATA.—EXTRA LARGE SERIES.—(*Sizes of the Brushes.*)

		s.	d.			s.	d.
No. 1	each	6	0	No. 4	each	15	0
„ 2	„	9	0	„ 5	„	18	0
3	„	12	0	„ 6	„	21	0

Note.—Nos. 4, 5 and 6 made in *Brown* Sable only.

WINSOR & NEWTON'S
FINEST BROWN OR RED WATER COLOUR SABLES IN ALBATA.—ROUND.

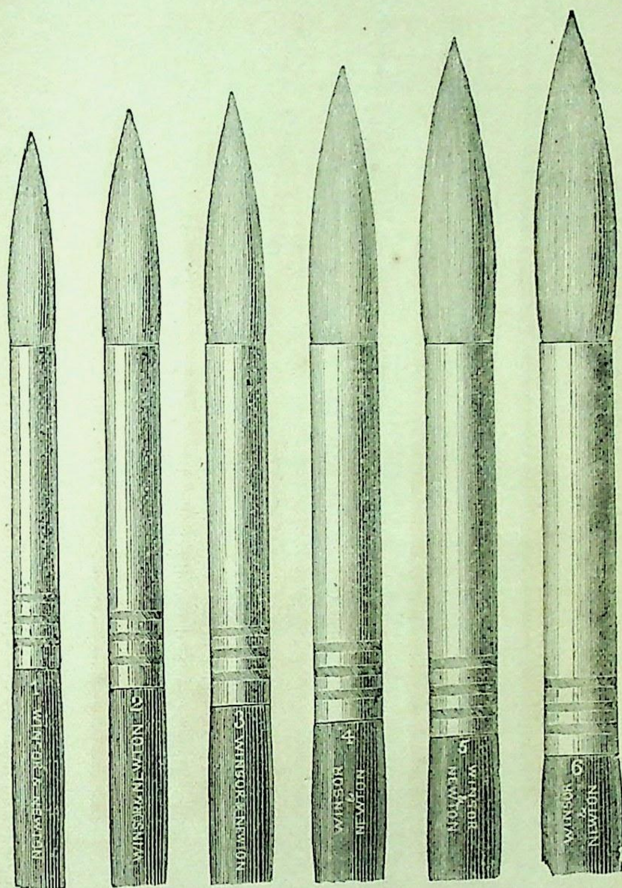


ROUND WATER COLOUR SABLES IN ALBATA.—(*Sizes of the Brushes.*)

		s.	d.			s.	d.
No. 1	each	1	0	No. 5	each	2	6
„ 2	„	1	3	„ 6	„	3	0
„ 3	„	1	6	„ 7	„	4	0
„ 4	„	2	0				

N.B.—These Brushes have *Ebony* Handles, and are marked with *three* nerls on their *Albata* Ferrules.

DITTO—**EXTRA LARGE SERIES.**

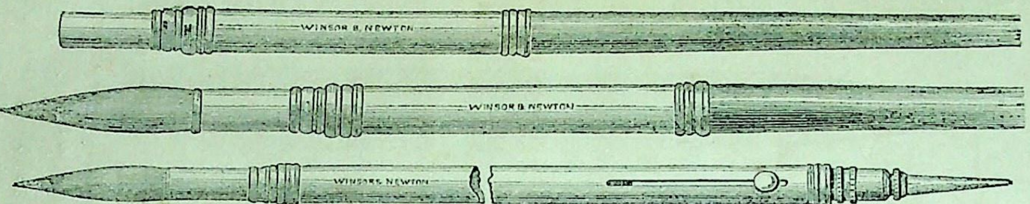


ROUND SABLES IN ALBATA.—EXTRA LARGE SERIES.—(*Sizes of the Brushes.*)

		s.	*d.*			*s.*	*d.*			*s.*	*d.*
No. 1	each	6	0	No. 3	each	12	0	No. 5	each	18	0
,, 2	,,	9	0	,, 4	,,	15	0	,, 6	,,	21	0

Note.—Nos. 4, 5 and 6 made in *Brown* Sable only.

WINSOR & NEWTON'S **POCKET SABLES** IN ALBATA.

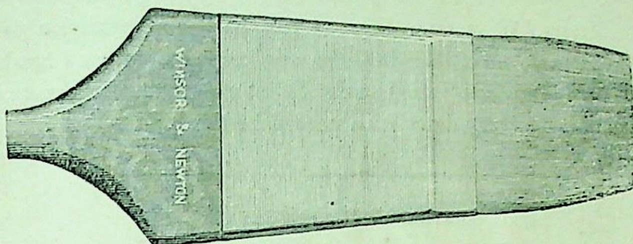


POCKET SABLES IN ALBATA (*Sizes of the Pocket Brushes.*)

		s.	d.
Small Pocket Sable in Albata	each	7	6
Large Pocket Sable in Albata	,,	10	6
Silver Brush Case and Pencil combined . . .	,,	15	0
M. Leads for replenishing ditto	per box	0	6

These Brushes are made to accompany any of the Registered Boxes of Moist Colours (*pages 21 and 22*); thus supplying a light and instantly available means of sketching, tinting, or making colour notes.

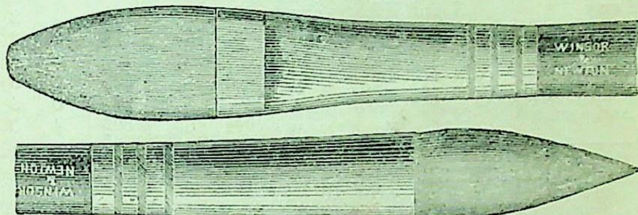
BROAD RED SABLE BRUSHES **IN ALBATA.**



BROAD RED SABLE IN ALBATA. *(Size of the 1 inch Brush.)*

½, ¾, 1, 1½, 2, and 2½ inches wide. Price 5*s.* per inch.

SKY OR **WASH** BRUSHES.



WASH DYED SABLES IN ALBATA. *(Sizes of the Brushes.)*

		s.	*d.*
Siberians in Tin, Flat	each	1	6
Ditto in Quill, Round	,,	2	6
Wash Dyed Sables in Tin, Flat or Round	,,	3	6
Ditto in Albata, Flat or Round	,,	5	0

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Medium	N. and HP.	„	22	„	17½	0	3
Royal	N. and HP.	„	24	„	19½	0	4
Imperial	N. HP. and R.	„	30¾	„	22¼	0	6
Double Elephant	N..HP. and R.	„	40	„	27	0	9
Antiquarian	N. . . .	„	52½	„	30½	4	0

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Royal	22 „	17½	.	„	1 0	1 6	2 0	3 0

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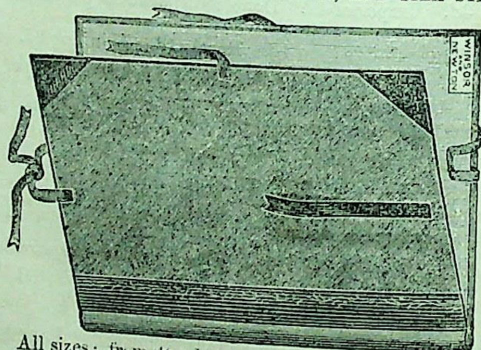
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Demy . . .	18 inches by	14	each	0 5	0 6	0 8
Half Imperial .	20¼ „	14	„	0 6	0 8	0 10
Royal . . .	22 „	17½	„	0 7	0 9	1 0
Imperial . . .	28 „	20¼		1 0	1 3	1 9

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Imperial . .	28½ „	21¼	„	0 6	0 8	1 0
Double Elephant .	38½ „	26	„	—	2 0	3 0

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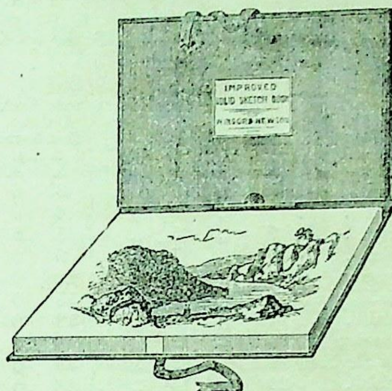
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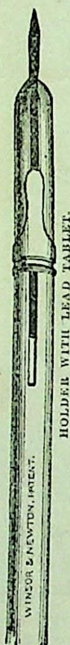
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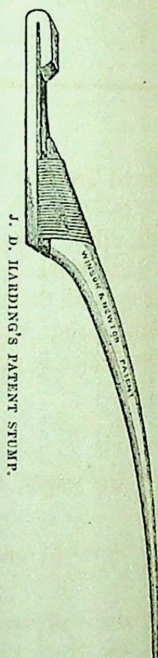
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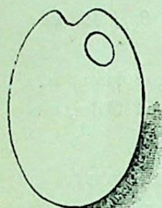
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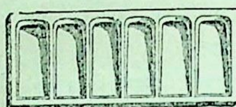
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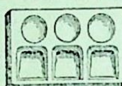
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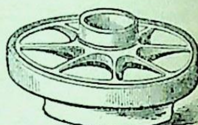
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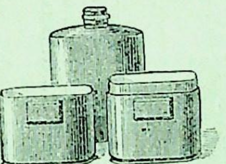
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10 ditto ditto .	,,	1	6
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9 ditto ditto .	,,	1	6
12 ditto ditto .	,,	2	0
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No. 2 ditto ditto	,,	4	0
No. 3 ditto ditto	,,	5	0
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$2\frac{1}{2}$ inch Saucers (Woolwich) . . .	,,	0	$1\frac{1}{2}$

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5 ditto . .	,,	1	0
6 ditto . .	,,	1	3
8 ditto . .	,,	1	6
12 ditto . .	,,	2	0
Centre Slant . .	,,	0	9
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No. 4 ditto ditto .	,,	0	6
No. 11 ditto ditto .	,,	0	9
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2 ditto ditto .	,,	0	$1\frac{1}{2}$
$2\frac{1}{2}$ ditto ditto .	,,	0	$1\frac{1}{2}$
3 ditto ditto .	,,	0	2
4 ditto ditto .	,,	0	2

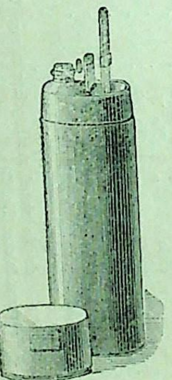
WINSOR & NEWTON'S WATER BOTTLES AND CUPS.



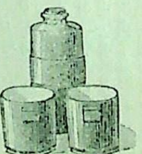
No. 1. *2s. 6d.*
Round Water Bottle
and Cups.



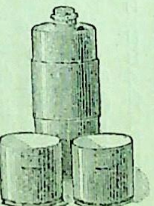
No 7. *4s. 6d. & 7s. 6d.*
Flat Oval Water Bottle
and Cups.



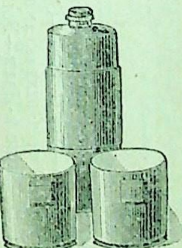
No. 2. *7s. 6d.*
Sketcher's
Water Bottle and
Brush Case complete.



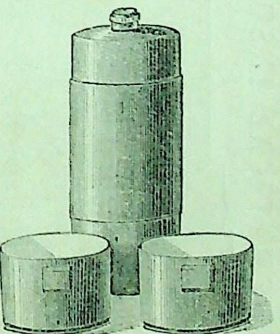
No. 3. *3s. 6d. & 5s. 6d.*
Small Oval
Water Bottle
and Cups.



No. 4. *4s. & 6s. 6d.*
Middle Oval
Water Bottle
and Cups.



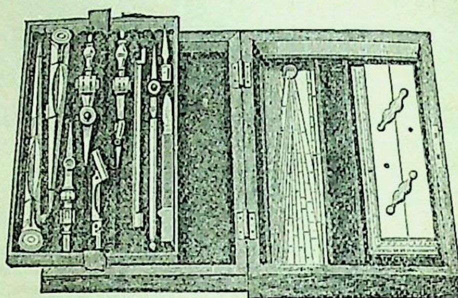
No. 5. *5s. & 8s. 6d*
Large Oval
Water Bottle
and Cups.



No. 6. *6s. 6d.*
Extra Large Oval
Water Bottle
and Cups.

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" Electrum ditto (No. 8)	10	6
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" Electrum, ditto ditto (No. 21)	5	6
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